Amendments to the Claims

This listing of claims will replace all prior versions, and listings of the claims in the application:

Listing of Claims:

1-22. (Canceled)

23. (New) A method for correcting vision in an eye, the eye having a cornea with an external surface and an optical axis, comprising the steps of

placing at least 50 lenses in between first and second internal corneal surfaces, each lens being between about 2-3 microns thick, so that the external surface of the cornea is not substantially displaced by the at least 50 lenses.

24. (New) A method according to claim 23, wherein the placing step is preceded by the step of

separating a portion of the cornea to form a corneal flap which creates the first and second internal corneal surfaces.

25. (New) A method according to claim 24, and further including the steps of

moving the corneal flap to expose the first and second internal surfaces, and

replacing the corneal flap after the at least 50 lenses have been placed in between the first and second internal surfaces.

26. (New) A method according to claim 25, wherein

each of the at least 50 lenses has a power of between about plus one to about plus three diopters.

27. (New) A method according to claim 23, wherein

each of the at least 50 lenses has a power of between about plus one to about plus three diopters.

28. (New) A method according to claim 23, wherein

each of the 50 lenses is substantially ring shaped.

29. (New) A method according to claim 23, wherein

the placing step includes placing the at least 50 lenses in concentric circles around the optical axis so that they create bifocal vision.

30. (New) A method according to claim 23, wherein

the placing step includes placing a first set of at least 20 lenses of the at least 50 lenses in a first concentric circle around the optical axis and a second set of at least 20 lenses of the at least 50 lenses in a second concentric circle around the optical axis so that the first and second sets of the at least 20 lenses form multifocal vision.

31. (New) A method according to claim 23, wherein

at least one lens of the at least 50 lenses has a diameter of about one millimeter.

32. (New) A method according to claim 23, wherein

at least one lens of the at least 50 lenses is substantially ring shaped.

33. (New) A method for correcting vision in an eye, the eye having a live cornea, comprising the steps of

separating an internal area of the live cornea into first and second internal surfaces to form a corneal flap, the first internal surface facing in a posterior direction of the live cornea and the second internal surface facing in an anterior direction of the live cornea,

moving the corneal flap to expose the first and second internal surfaces,

placing at least 50 lenses, each lens having a thickness of about 2-3 microns, on at least one of the first and second internal surfaces to allow at least bifocal vision, and

replacing the flap.

34. (New) A method according to claim 33, wherein

at least one of the 50 lenses lens has a power of between about plus one to about plus three diopters.

35. (New) A method according to claim 33, wherein

at least one of the 50 lenses lens has a diameter of about less than 1 millimeter.

36. (New) A method according to claim 33, wherein

each of the at least 50 lenses has a power of between about plus one to about plus three diopters.

37. (New) A method according to claim 33, wherein

each of the at least 50 lenses is substantially ring shaped.

38. (New) A method according to claim 33, wherein

the placing step includes placing the at least 50 lenses so that they allow multifocal vision.

39. (New) A method according to claim 33, wherein

each of the at least 50 lenses has a diameter of about one millimeter.

40. (New) A method according to claim 33, wherein

at least one of the 50 lenses is substantially ring shaped.

41. (New) A method for correcting vision in an eye, the eye having a cornea with an external surface and an optical axis, comprising the steps of

separating a portion of the cornea to form first and second internal surfaces,

placing a first lens having an first opening therein between the first and second internal surfaces, the first opening being substantially centered about the main optical axis, the first lens having a first inner wall defined by the first opening, a first outer wall, and a thickness between about one and about 50 microns, so that the external surface of the cornea is not substantially displaced by the first lens, and

placing a second lens having a second opening therein between the first and second internal surfaces, the second opening being substantially centered about the main optical axis and concentric with the first lens, the second lens having a second inner wall defined by the second opening, a second outer wall and a thickness between about one and about 50 microns, so that the external surface of the cornea is not substantially displaced by the second lens.

42. (New) A method according to claim 41, wherein

the placing step includes placing at least one of the first and second lenses substantially concentrically about the optical axis of the eye.

43. (New) A method according to claim 41, wherein

the placing step includes placing both the first and second lenses substantially concentrically about the optical axis of them.

44. (New) A method according to claim 41, wherein

the first and second lenses have a thickness of about 2-3 microns, so that when the first and second lenses are inserted between the first and second internal surfaces, the first and second surfaces are not substantially displaced.

45. (New) A method according to claim 44, wherein

the separating step includes separating the portion of the cornea to form a corneal flap.

46. (New) A method according to claim 45, further including the steps of

moving the corneal flap to expose the first and second internal surfaces, and

replacing the corneal flap after the first and second lenses have been placed in between the first and second internal surfaces.

47. (New) A method according to claim 46, wherein

the first and second lenses each have a power of about plus one to about plus three diopters.

48. (New) A method according to claim 44, wherein

the placing steps include placing the first and second lenses laterally adjacent one another without any portion of one lens contacting any portion of the other lens.

49. (New) An intracorneal lens system for implantation in the eye to correct refractive error thereof, comprising:

a first lens portion having a first outer surface and a thickness of between about one and about 50 microns, said first outer surface defining a first outer diameter;

a first aperture extending through said first lens portion, said first aperture defining a first inner diameter and a first inner surface;

a second lens portion having a second outer surface and a thickness of between about one and about 50 microns, the second outer surface defining a second outer diameter; and

a second aperture extending through said second lens portion, said second aperture defining a second inner diameter and a second inner surface;

wherein said second lens portion has a refractive index different from the refractive index of said first lens portion.

50. (New) An intracorneal lens system according to claim 49, wherein

said first lens portion has a refractive index different from the refractive index of the cornea.

51. (New) An intracorneal lens system according to claim 49, wherein

said second inner diameter is about one millimeter larger than said first outer diameter.

52. (New) A method for correcting vision in an eye, the eye having a cornea with an external surface and an optical axis, comprising the steps of

placing at least 50 lenses in between first and second internal surfaces in concentric circles around the optical axis so that they create bifocal vision, at least one of the at least 50 lenses being between about one and about 50 microns thick, so that the external surface of the cornea is not substantially displaced by the at least one lens.

53. (New) A method according to claim 52, wherein the placing step is preceded by the step of

separating a portion of the cornea to form a corneal flap which creates the first and second internal corneal surfaces.

54. (New) A method according to claim 53, further including the steps of

moving the corneal flap to expose the first and second internal surfaces, and

replacing the corneal flap after the at least 50 lenses have been placed between the first and second internal surfaces.

55. (New) A method according to claim 52, wherein

each of the at least 50 lenses has a power of between about plus one to about plus three diopters.

56. (New) A method according to claim 52, wherein

the placing step includes placing the at least 50 lenses, each lens having a thickness of about 2-3 microns, on at least one of the first and second internal surfaces, so that the external surface of the cornea is not substantially displaced by the at least 50 lenses.

57. (New) A method according to claim 56, wherein

each of the at least 50 lenses has a power of between about plus one to about plus three diopters.

58. (New) A method according to claim 56, wherein

each of the at least 50 lenses is substantially ring shaped.

59. (New) A method according to claim 52, wherein

the placing step includes placing a first set of at least 20 of the at least 50 lenses in a first concentric circle around the optical axis and a second set of at least 20 of the at least 50 lenses in a second concentric circle around the optical axis, so that the first and second sets of at least 20 lenses form multifocal vision.

60. (New) A method according to claim 52, wherein

at least one of the 50 lenses is substantially ring shaped.

61. (New) A method for correcting vision in an eye, the eye having a cornea with an external surface and an optical axis, comprising the steps of

placing a first set of at least 20 lenses in a first concentric circle around the optical axis between first and second internal surfaces, and

placing a second set of at least 20 lenses in a second concentric circle around the optical axis between the first and second internal surfaces, so that the first and second sets of at least 20 lenses form multifocal vision, at least one of the lenses from the first or second set of at least 20 lenses being between about one to about 50 microns thick, so that the external surface of the cornea is not substantially displaced by the at least one lens.

62. (New) A method according to claim 61, wherein the placing steps are preceded by the step of

separating a portion of the cornea to form a corneal flap which creates the first and second internal corneal surfaces.

63. (New) A method according to claim 62, further including the steps of

moving the corneal flap to expose the first and second internal surfaces, and

replacing the corneal flap after the first and second sets of at least 20 lenses have been placed in between the first and second internal surfaces.

64. (New) A method according to claim 61, wherein

the placing steps include placing a total of at least 50 lenses, each lens having a thickness of about 2-3 microns, on at least one of the first and second internal surfaces, so that the external surface of the cornea is not substantially displaced by the at least 50 lenses.

65. (New) A method according to claim 64, wherein

each of the at least 50 lenses has a power of between about plus one to about plus three diopters.

66. (New) A method according to claim 64, wherein

each of the at least 50 lenses is substantially ring shaped.

67. (New) A method according to claim 64, wherein

at least one of the at least 50 lenses is substantially ring shaped.